

IDHS DIVISION OF TRAINING
MACHINERY OPERATIONS LEVEL
PRACTICAL SKILLS AND EXAMINATION HANDBOOK

Title
SIZE-UP

Skill Sheet#1

NFPA 1670, 2009 Edition, 12.3.4(1, 2)

Directions

For this skills evaluation checklist, candidate shall size-up existing and potential conditions at machinery search and rescue incidents. Identify potential victim locations and survivability.

Equipment & Materials

- Proper PPE
- Machinery props

Task Steps	
1.	Candidate shall verbally report to the evaluator the following: <ul style="list-style-type: none">• Identify Scope and Magnitude of the incident.• Risk Benefit analysis (body recover vs. rescue)• Determine number and size of machines affected• Identify integrity and stability of machines• Identify the number of known or potential victims• Access to the Scene• Identify the hazards of disrupted or exposed utilities, standing or flowing water, mechanical hazards, hazardous materials, electrical hazards, and explosives.• Exposure to traffic• Explain environmental factors• Explain available versus necessary resources
2.	Candidate is wearing proper PPE for operating at the incident (minimum) <ul style="list-style-type: none">• Eye protection• Hearing protection• Helmet (rescue type)• Extrication or structural FF gloves• BSI (body substance isolation)

IDHS DIVISION OF TRAINING
MACHINERY OPERATIONS LEVEL
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	<ul style="list-style-type: none">• Long sleeves & long pants• Steel toe shoes or boots
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IDHS DIVISION OF TRAINING
MACHINERY OPERATIONS LEVEL
PRACTICAL SKILLS AND EXAMINATION HANDBOOK

Title
Safe/Hazard Control

Skill Sheet#1

NFPA 1670, 2009 Edition, 12.3.4(3, 4, 5, 6)

Directions

For this skills evaluation checklist, candidate shall make the search and rescue area safe, including the stabilization and isolation (e.g. lockout/tagout) of all machinery involved. Identify and control the hazards presented by the release of fluids as gases associated with the machinery which includes, but not limited to, fuel, cutting or lubricating oil, and cooling water.

Equipment & Materials

- Proper PPE
- Lockout/tagout kit
- Machinery props
- Cribbing, chocks, and wedges

Task Steps	
1.	Candidate shall Establish operational zones (i.e. hot, warm, cold) and site security
2.	Using specific techniques and tools (including cribbing, chocks, and wedges), perform vehicle stabilization on the machinery prop.
3.	Using specific techniques and tools (i.e. lockout and tagout) isolate involved equipment.
4.	Perform ventilating and atmospheric monitoring of the rescue area, when necessary.
5.	Prevent or assist with preventing of the touching or operating of equipment or machinery involved until its safety has been established.
6.	Candidate shall discuss with the evaluator the use or potential use of nonsparking tools where a flammable atmosphere exists.
7.	Perform/assist with performing various types of stabilization.
8.	Demonstrate the use of cribbing and chocks.
9.	Demonstrate the proper use of shackles and slings (including wire rope, chain, and synthetic rope of various types and styles).

IDHS DIVISION OF TRAINING
MACHINERY OPERATIONS LEVEL
PRACTICAL SKILLS AND EXAMINATION HANDBOOK

Title
PERFORMING EXTRICATION

Skill Sheet#1

NFPA 1670, 2009 Edition, 12.3.4(7, 8, 9, 10)

Directions

For this skills evaluation checklist, candidate shall access victim trapped in machinery. Perform extrication and disentanglement operations involving packaging, treating, and removing victim trapped in machinery where entrapment is limited to digit or where the machine can be simply disassembled, or is constructed of lightweight materials that can be cut, spread, or lifted and has only simple hazards that are readily controlled. Mitigating and managing general and specific hazards associated with machinery search and rescue incidents. Procuring and utilizing the resources necessary to conduct machinery search and rescue operations.

Equipment & Materials

- Proper PPE
- Assorted hand tools
- Cribbing, chocks, and wedges
- Machinery props (pinch, rake, roller)
- Lockout/tagout kit

Task Steps	
1.	Candidate shall perform skills on machinery props (pinch, rake, roller)
2.	Provide/assist with providing protective equipment for victims if possible, when necessary.
3.	Candidate shall provide a verbal report to the evaluator on the following: <ul style="list-style-type: none">• Weight estimation• Identify construction features of machinery• Identify or explain types of tension and compression forces.• Identify or explain categories of mechanical injuries.• Identify or explain center of gravity and its relationship to rollover.
4.	Demonstrate the use and types of levers for mechanical advantage.
5.	Demonstrate proper and effective use of hand tools including: hammer, wrenches, sockets, screwdrivers, pry bars, saws, jacks, cable cutter, and come-a-long.

IDHS DIVISION OF TRAINING
MACHINERY OPERATIONS LEVEL
PRACTICAL SKILLS AND EXAMINATION HANDBOOK

6.	Perform/assist with performing disentanglement through primary access points.
7.	Provided/assisted with providing protection of a victim during extrication/disentanglement.